

PUB. NO.: 09-064231 ([JP 9064231 AJ])  
PUBLISHED: March 07, 1997 (19970307)  
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APPL. NO.: 07-239169 [JP 95239169]  
FILED: August 24, 1995 (19950824)

ABSTRACT

PROBLEM TO BE SOLVED: To obtain a board for a \*high\*-density\* area \*grid\* \*array\* package whereon a semiconductor chip with many pins can be mounted by simple means.

SOLUTION: An area \*grid\* \*array\* package-oriented board having a first layer 1 with pads 7, a second layer 2 connected with the first layer 1 and for mounting a semiconductor chip 10 thereon, and an \*insulation\* layer 3 interposed between the first and second layers 1, 2, wherein after the first layer 1 is removed by a laser beam machining to the rear surface of the second layer 2 through the interposed \*insulation\* layer 3 to form via-holes 6 with tapered sections in the layers 1, 3, \*platings\* 5 for the \*via\* -holes 6 are applied thereto from their opening surfaces, and then, while etching both the sides of the board, the pads 7 are formed in the form of grid points in the first layer 1 and wirings 8 and lands 9 which are connected with both the chip 10 and via-holes 6 are formed in the second layer 2. Hereupon, it is possible that each via-\*hole\* 6 has \*no\* \*filling\* for each pad 7 to have a recessed portion or each via-\*hole\* 6 has a \*filling\* to make each pad 7 plane-form.



(11) Publication number: **09064231 A**

Generated Document.

# PATENT ABSTRACTS OF JAPAN

(51) Intl. Cl.: H01L 23/12 H05K 1/11 H05K  
3/40

(22) Application date: 24.08.95

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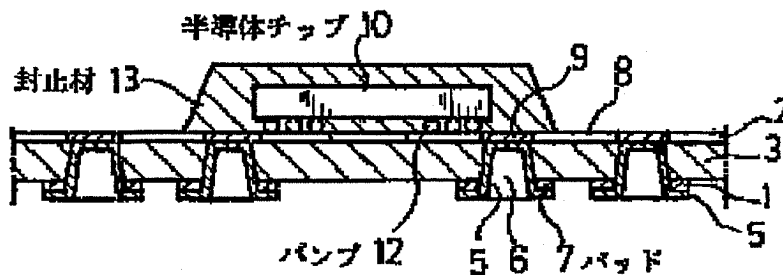
**(54) BOARD FOR  
AREA GRID ARRAY  
PACKAGE AND ITS  
MANUFACTURE**

(57) Abstract:

### PROBLEM TO BE

**SOLVED:** To obtain a board for a high-density area grid array package whereon a semiconductor chip with many pins can be mounted by simple means.

**SOLUTION:** An area grid array package-oriented board having a first layer 1 with pads 7, a second layer 2 connected with the first layer 1 and for mounting a semiconductor chip 10 thereon, and an insulation layer 3 interposed between the first and second layers 1, 2, wherein after the first layer 1 is removed by a laser beam machining to the rear surface of the second layer 2 through the interposed insulation layer 3 to form via-holes 6 with tapered sections in the



With tapered sections in the layers 1, 3, platings 5 for the via-holes 6 are applied thereto from their opening surfaces, and then, while etching both the sides of the board, the pads 7 are formed in the form of grid points in the first layer 1 and wirings 8 and lands 9 which are connected with both the chip 10 and via-holes 6 are formed in the second layer 2. Hereupon, it is possible that each via-hole 6 has no filling for each pad 7 to have a recessed portion or each via-hole 6 has a filling to make each pad 7 plane-form.

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